IN THE CLAIMS:

Please amend the claims as shown below. The claims, as pending in the subject application, read as follows:

1. (Currently Amended) An image processing apparatus comprising:

a bit connection component that connects a decimal portion of image data of a preceding pixel output from a latch component, to image data of a target pixel as lower bits of the image data of the target pixel, and outputs the bit-connected image data having an integer portion of the image data of the target pixel and the decimal portion;

a correction component that generates corrected image data by adding a correction value to the bit-connected image data ~~of the target pixel~~, the corrected image data having the integer portion and the decimal portion with the added correction value;

a latch component that latches [[a]] the decimal portion of the corrected image data to be connected to image data of a next pixel;

a quantization component that receives ~~quantizes~~ an integral portion (upper bits) of the corrected image data ~~without quantizing the decimal portion (lower bits) of the corrected image data~~, and quantizes the received integer portion of the corrected image data;

an inverse quantizing component that inverse-quantizes the quantized integer portion of the corrected image data, and outputs an inverse-quantized data;

a calculation component that ~~calculates a quantization error, which is generated by quantization of the integral portion of the corrected image data by said~~

~~quantization component~~ outputs a quantization error based on a difference between the integer portion of the corrected image data and the inverse-quantized data;

a buffer that stores the calculated quantization error ~~for the integral portion of the corrected image data~~; and

an error diffusion component that generates a correction value to be added to input data of a next pixel by diffusing the quantization error stored in said buffer.

2. (Canceled)

3. (Previously Presented) The apparatus according to claim 1, further comprising a stop component that stops propagating the correction value in a case in which it is inappropriate to propagate the correction value to next and subsequent pixels.

4. (Previously Presented) The apparatus according to claim 1, further comprising:

a clear component that clears the decimal portion held in said latch component in a case in which it is inappropriate to connect the decimal portion of the correction value, which is latched in said latching component, to the lower bit side of the next input image data.

5. (Original) The apparatus according to claim 4, further comprising a processing limit component that limits clearing by said clear component when a scanning direction of the input image is reversed.

6. (Original) The apparatus according to claim 3, wherein the case in which it is inappropriate to propagate the correction value to next and subsequent pixels includes at least one of a case in which a pixel of interest is a start pixel of a line, a case in which the pixel of interest has a value equal to a lower limit level of the input image, and a case in which the pixel of interest has a value equal to an upper limit level of the input image.

7. (Original) The apparatus according to claim 1, further comprising a numerical value limit component that limits the quantization error calculated by said calculation component to a numerical value within a predetermined range.

8. to 19. (Canceled)

20. (Currently Amended) A method ~~for~~ implemented in an image processing apparatus, comprising:

a bit connection step of connecting a decimal portion of image data of a preceding pixel output from a latch component, to image data of a target pixel as lower bits of the image data of the target pixel, and outputting the bit-connected image data having an integer portion of the image data of the target pixel and the decimal portion;

a correction step of generating corrected image data by adding a correction value to the bit-connected image data ~~of the target pixel~~, the corrected image data having the integer portion and the decimal portion with the added correction value;

a latch step of latching [[a]] , by the latch component, the decimal portion of the corrected image data to be connected to the image data of the next pixel;

a quantization step of receiving ~~quantizing~~ an integral portion (upper bits) of the corrected image data ~~without quantizing the decimal portion (lower bits) of the corrected image data~~, and quantizing the received integer portion of the corrected image data;

an inverse quantizing step of inverse-quantizing the quantized integer portion of the corrected image data, and outputting an inverse-quantized data;

a calculation step of ~~calculating a quantization error, which is generated by the quantization of the integral portion of the corrected image data in said quantization step~~ outputting a quantization error based on a difference between the integer portion of the corrected image data and the inverse-quantized data;

a storing step of storing the calculated quantization error ~~for the integral portion of the corrected image data~~ in a buffer; and

an error diffusion step of generating a correction value to be added to input data of a next pixel by diffusing the quantization error stored in said buffer.

21. (Canceled)

22. (Previously Presented) The method according to claim 20, further comprising a step of stopping propagation of the correction value in a case in which it is inappropriate to propagate the correction value to next and subsequent pixels.

23. (Previously Presented) The method according to claim 20, further comprising the step of:

clearing the decimal portion held in said latching step in a case in which it is inappropriate to connect the decimal portion of the correction value, which is latched in said latching step, to the lower bit side of the next input image data.

24. (Previously Presented) The method according to claim 23, further comprising a step of limiting the clear process of said clear step when a scanning direction of the input image is reversed.

25. (Original) The method according to claim 22, wherein the case in which it is inappropriate to propagate the correction value to next and subsequent pixels includes at least one of a case in which a pixel of interest is a start pixel of a line, a case in which the pixel of interest has a value equal to a lower limit level of the input image, and a case in which the pixel of interest has a value equal to an upper limit level of the input image.

26. (Previously Presented) The method according to claim 20, further comprising a step of limiting the quantization error calculated in said calculation step to a numerical value within a predetermined range.

27. to 38. (Canceled)

39. (Currently Amended) A computer-readable storage medium on which is stored a computer-executable program for implementing a method executed by an image processing apparatus, the program comprising the steps of:

a bit connection step of connecting a decimal portion of image data of a preceding pixel output from a latch component, to image data of a target pixel as lower bits of the image data of the target pixel, and outputting the bit-connected image data having an integer portion of the image data of the target pixel and the decimal portion;

a correction step of generating corrected image data by adding a correction value to the bit-connected image data ~~of the target pixel~~, the corrected image data having the integer portion and the decimal portion with the added correction value;

a latch step of latching [[a]] , by the latch component, the decimal portion of the corrected image data to be connected to the image data of the next pixel;

a quantization step of receiving ~~quantizing~~ an integral portion (upper bits) of the corrected image data ~~without quantizing the decimal portion (lower bits) of the corrected image data~~, and quantizing the received integer portion of the corrected image data;

an inverse quantizing step of inverse-quantizing the quantized integer portion of the corrected image data, and outputting an inverse-quantized data;

a calculation step of ~~calculating a quantization error, which is generated by the quantization of the integral portion of the corrected image data in said quantization step~~ outputting a quantization error based on a difference between the integer portion of the corrected image data and the inverse-quantized data;

a storing step of storing the calculated quantization error ~~for the integral portion of the corrected image data~~ in a buffer; and

an error diffusion step of generating a correction value to be added to input data of a next pixel by diffusing the quantization error stored in said buffer.

40. to 61. (Canceled)